

*REMARKS/ARGUMENTS**The Pending Claims*

Claims 35-53 are pending and are directed to a method of changing the sensory perception of an animal.

The Amendments to the Specification and Claims

The specification has been amended to correct the "CROSS-REFERENCE TO RELATED APPLICATIONS" statement on page 1 of the application. Claims 1-34 have been cancelled in favor of new claims 35-53. New claim 35 is supported by original claims 1, and by the specification at, e.g., paragraphs 0037, 0038, 0044, 0054, 0055, and 0071. New claim 36 is supported by original claim 3, and by the specification at, e.g., paragraph 0044. New claim 37 is supported by original claims 4 and 31, and by the specification at, e.g., paragraph 0044. New claim 38 is supported by original claims 5 and 32, and by the specification at, e.g., paragraph 0044. New claim 39 is supported by the specification at, e.g., paragraph 0055. New claim 40 is supported by original claims 10 and 28, and by the specification at, e.g., paragraph 0026. New claim 41 is supported by original claims 11 and 29, and by the specification at, e.g., paragraph 0027. New claim 42 is supported by the specification at, e.g., paragraph 0028. New claim 43 is supported by the specification at, e.g., paragraph 0034. New claim 44 is supported by the specification at, e.g., paragraph 0041. New claims 45 and 46 are supported by original claim 33, and by the specification at, e.g., paragraphs 0075-0077. New claim 47 is supported by the specification at, e.g., paragraph 0075. New claim 48 is supported by the specification at, e.g., paragraph 0076. New claims 49-51 are supported by the specification at, e.g., paragraph 0024. New claims 52 and 53 are supported by the specification at, e.g., paragraph 0038.

Accordingly, no new matter has been added by way of these amendments.

The Office Action

The specification is objected to because the "CROSS-REFERENCE TO RELATED APPLICATIONS" statement allegedly is incorrect. Claims 1, 3, 4, and 16-20 are rejected under 35 U.S.C. § 102(b) as allegedly anticipated by, or alternatively under 35 U.S.C. §

103(a) as obvious over, Zheng et al., *Nat. Neurosci.*, 3(6): 580-586 (2000) (“the Zheng reference”). Claims 1-6, 8-10, and 16-21 are rejected under 35 U.S.C. § 102(e) as allegedly anticipated by U.S. Patent 6,838,444 (“the ‘444 patent”). Claims 1, 6, and 8-12 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over the ‘444 patent in view of U.S. Patent 6,821,775 (“the ‘775 patent”). Claims 1 and 13-15 are rejected under 35 U.S.C. § 103(a) as allegedly unpatentable over the ‘444 patent in view of Staecker et al., *Otolaryngol Head Neck Surg.*, 119(1): 7-13 (1998) (“the Staecker reference”). Reconsideration of these rejections is respectfully requested.

Discussion of Rejections Under 35 U.S.C. § 102

Claims 1, 3, 4, and 16-20 are rejected under Section 102(b) as allegedly anticipated by the Zheng reference. Claims 1-6, 8-10, and 16-21 are rejected under Section 102(e) as allegedly anticipated by the ‘444 patent. Claims 1-34 have been cancelled, rendering these rejections moot. Applicants note that neither the Zheng reference nor the ‘444 patent discloses the subject matter of new claims 35-53.

In this regard, the Zheng reference discloses expression of the Math-1 gene from a plasmid vector in rat cochlear explant tissues. The Zheng reference, however, does not disclose the use of an adenoviral vector, much less a non-group C adenoviral vector, comprising a nucleic acid sequence encoding an atonal-associated factor operably linked to a promoter that specifically functions in supporting cells of the inner ear. As such, the Zheng reference does not anticipate the subject matter of claims 35-53.

The ‘444 patent discloses a method of generating hair cells in an animal (e.g., a human) comprising delivering to the inner ear of the animal a nucleic acid encoding an atonal-associated factor using, for example, an adenoviral vector. The ‘444 patent, however does not disclose the use of a non-group C adenoviral vector comprising a nucleic acid sequence encoding an atonal-associated factor and a chimeric coat protein ablated for binding to a native adenovirus receptor and comprising a non-native ligand. Accordingly, the ‘444 patent does not anticipate the subject matter of claims 35-53.

In view of the foregoing, the anticipation rejections under Section 102(b) and Section 102(e) should be withdrawn.

Discussion of Rejections Under 35 U.S.C. § 103

Claims 1, 3, 4, and 16-20 are alternatively rejected under Section 103(a) as obvious over the Zheng reference. Claims 1, 6, and 8-12 are rejected under Section 103(a) as allegedly unpatentable over the '444 patent in view of the '775 patent. Claims 1 and 13-15 are rejected under Section 103(a) as allegedly unpatentable over the '444 patent in view of the Staecker reference. Claims 1-34 have been cancelled, rendering these rejections moot. Neither the disclosure of the Zheng reference, nor the disclosure of the '444 patent in combination with either the '775 patent or the Staecker reference renders obvious the subject matter of claims 35-53.

The Zheng reference does not suggest the use of an adenoviral vector, much less a non-group C adenoviral vector, comprising a nucleic acid sequence encoding an atonal-associated factor operably linked to a promoter that specifically functions in supporting cells of the inner ear. Moreover, as discussed above, the '444 patent does not disclose the use of a non-group C adenoviral vector comprising a nucleic acid sequence encoding an atonal-associated factor and a chimeric coat protein ablated for binding to a native adenovirus receptor and comprising a non-native ligand.

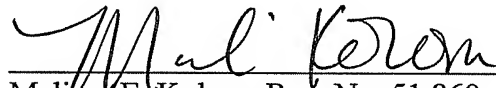
Neither the '775 patent nor the Staecker reference compensates for the deficiencies of the '444 patent. In this regard, the '775 patent discloses an E1/E4-deleted adenoviral vector comprising a nucleic acid sequence encoding the PEDF gene, which is administered to the eye of an animal. The Staecker reference discloses administration of an HSV-1 vector encoding brain-derived neurotrophic factor (BDNF) to damaged spiral ganglion of mice. Neither the '444 patent nor the Staecker reference discloses a method of changing the sensory perception of an animal comprising administering to the inner ear a pharmaceutical composition comprising a non-group C adenoviral vector comprising (a) a nucleic acid sequence encoding an atonal-associated factor operably linked to a promoter that specifically functions in supporting cells of the inner ear and (b) a chimeric coat protein ablated for binding to a native adenovirus receptor and comprising a non-native ligand.

In view of the foregoing, the subject matter of the pending claims is not obvious in view of the cited references, either alone or in combination. Accordingly, the rejections under Section 103 should be withdrawn.

Conclusion

Applicants respectfully submit that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned agent.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Melissa E. Kolom", is written over a horizontal line.

Melissa E. Kolom, Reg. No. 51,860
LEYDIG, VOIT & MAYER, LTD.
Two Prudential Plaza, Suite 4900
180 North Stetson Avenue
Chicago, Illinois 60601-6731
(312) 616-5600 (telephone)
(312) 616-5700 (facsimile)

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